

Grass and Clover

Recommended List Varieties for Ireland 2011



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Requests for this booklet should be sent to:-

**Department of Agriculture, Fisheries and Food (DAFF)
Crop Policy, Production & Safety Division
Backweston Campus, Young's Cross,
Celbridge, Co. Kildare.**

or:-

e-mail christine.prior@agriculture.gov.ie

Alternatively, the information can be obtained at the Department of Agriculture, Fisheries and Food's website: -

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Notice to Publishers

The variety data presented may not be published unless the source is clearly acknowledged as the 'Grass and Clover Recommended List Varieties for Ireland 2011' publication produced by Department of Agriculture, Fisheries and Food.

Introduction

Perennial ryegrass, Italian ryegrass and White clover account for nearly all of the grass/clover seed sold in Ireland. Of these, perennial ryegrass is by far the most important. Other species of grass and clover are not commonly used. Individual varieties differ in performance characteristics depending on maturity group and ploidy. These differences may be further exaggerated by factors such as climate, soil type and system of farming. Increased demands on grassland with regard to early spring grass, mid-season production, extended grazing in the autumn etc., mean that care needs to be taken in the selection of suitable grass seed mixtures. All grass and clover varieties listed in this booklet have a proven record of performance over a period of years at a number of different locations, and are deemed most suitable for Irish conditions.

Growers should give preference to the Recommended List varieties unless there is strong evidence that some other variety is more suited to their conditions.

Variety Maturity Groupings

Perennial Ryegrass: - Approximately 95% of forage grass seed sold in Ireland. Perennial ryegrass is grouped into three maturity groups (**early**, **intermediate** and **late**), on the basis of heading date (ear emergence).

Early varieties: - Head in the first half of May. Early perennials provide very good yields of early spring grazing and first cut silage. Stemmy regrowths in early summer can be a problem where long periods of uninterrupted growth are allowed to occur without grazing or cutting. In recent years, use of this group has declined in Ireland and sales are at a very low level.

Intermediate varieties: - Head in the second half of May and are ideal for producing high quality silage cuts in late May and mid-July. Although not bulking up as soon as early perennial varieties, overall silage yields are as good. Varieties from this group are suited to a broad range of management systems, and should be included in any seed mixture. Generally their spring growth is not as good as for early perennials, but persistency is better.

Late varieties: - Head in the first half of June, and tend towards a prostrate growth habit. They are characterised by high tiller densities, exhibit good ground cover, and are well suited to long term grazing pastures. Late varieties produce good quality silage cuts in early June and late July, and are leafy in mid summer. Generally their spring growth is not as good as for 'Intermediates'. Under good grazing

management, late perennials are extremely persistent and can survive very well for many years.

Italian ryegrass: - Are best suited to short-term leys of 2-3 years duration. They have early spring growth, but can be difficult to manage in mid-season because of stemmy regrowth. Italian varieties are suitable for intensive silage production and can also provide useful grazing in the spring and late autumn period. They tend to have low sward densities and are susceptible to poaching under adverse conditions.

Hybrid ryegrass: - These varieties represent the product of a cross between Italian and Perennial ryegrass types. In appearance they generally reflect one or other parental type. The Hybrid ryegrass varieties tend to yield higher than the Intermediate and Late groups of Perennial ryegrass, but lower than the Italians. Hybrids tend to be more stemmy in summer than the Intermediates and Lates, but less stemmy than the Italians.

White clovers: - Are included as a component in most grass seed mixtures for their nutritive value and their nitrogen fixing abilities. They are classified according to leaf size into very large, large, medium and small leaved types. Very large and large leaved varieties are relatively tolerant to nitrogen fertiliser usage and compete well with companion grasses, making them suitable for silage production. Medium leaved varieties are more suited to grazing, but can also be used in silage mixes. Small leaved varieties are suitable only for grazing.

Ploidy

Recently **diploid** varieties have tended to dominate mixtures in Ireland, but **tetraploid** varieties are an important component of grass seed mixtures. Compared to diploids they have higher quality and are more palatable to livestock (higher intake), and are more tolerant to drought. However, they tend to have lower tiller densities resulting in more open swards. Dry matter content also tends to be lower compared with diploids. On heavy soils subject to poaching, persistence may also suffer. Seeding rates for tetraploid grasses will need to be higher because of their larger seed size. In this publication, (T) denotes tetraploid varieties, all other varieties being diploid.

<p>IMPORTANT NOTICE: - The Department of Agriculture, Fisheries and Food (DAFF) has taken all due care in evaluating the performance in Ireland of the listed varieties, for yield, heading date, ground cover and other agronomic characters (for a minimum period of 3 years) over a range of locations, soils and environmental conditions. DAFF cannot, however accept responsibility for any loss or inconvenience arising from any future variation in absolute or relative varietal performance.</p>
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Protocol for Recommended List

Trials and trial sites

Varieties are evaluated over a minimum of two separate sowings, with each sowing being harvested for two years after the sowing year. Trials are conducted at Backweston Farm, Leixlip, Co. Kildare (Headquarters); Fermoy, Co Cork; Raphoe, Co Donegal; Athenry, Co Galway, and Piltown, Co Kilkenny. All new varieties are assessed against control varieties within their own maturity groups. Trials are grown on very good quality mineral soils in a manner conducive to selection of varieties most suited to good commercial farming practices.

Grasses

Perennial ryegrasses (Early, Intermediate and Late heading groups), Italian ryegrasses and Hybrid ryegrasses trials are sown in May/August and establish during for the remainder of that year. They are then assessed over the following two-year period under a 6 cut system using a trial-plot harvesting machine. The harvesting regime comprises one spring grazing cut, followed by two silage cuts and then three grazing cuts.

White clover varieties are sown in a mixture with an intermediate perennial ryegrass in May/August, and following an establishment year are assessed over the subsequent two years under an 8 cut system. White clovers are tested under a low fertiliser nitrogen input regime, where the total yearly application is 50kg Nitrogen per hectare (50kg N/ha) applied in the spring.

Heading date is based on the first heading date in spring. It is determined by examination of individual grass plants sown in the previous summer/autumn. It is carried out over a number of years at different sites. Heading date indicates the earliness or lateness of a variety in reaching maturity in spring. Dates listed should be used as a guide only as actual heading date will vary with location, climate and date of the last grazing.

Total yield for each variety is given as a percentage of control varieties indicated. In the tables, the mean relative yield for these control varieties does not always equate to 100, as historically not all control varieties were sown in each year from which data has been abstracted. The tables also show the average yields in tonnes dry matter per hectare (tDM/ha) for the control varieties. Annual yield tDM/ha can vary considerably between years and trial sites, due mainly to differences in

soil quality and climatic conditions. Where grass is commercially grown on lower quality land, considerably lower annual yields can be expected.

Ground Cover Score indicates the degree of ground cover or *sward density* at the end of the second harvest year, and is based on a visual assessment. A low figure indicates a very open sward, which may be prone to poaching or trafficability problems. However, since most varieties are sown as a mixture, the degree that this will influence the longevity of the sward can be minimised by including varieties with high ground cover scores.

Spring growth production figures are given for all ryegrass varieties. These figures are important indicators of early grass production and are expressed as a percentage of the control yields over the same period. Spring growth data is based on the yield of the first cut, which is taken in early April.

Autumn growth figures indicate production differences between varieties in autumn. They are expressed as a percentage of the control yields over the same period. Autumn growth data is based on the combined yield of the last two cuts, which measure growth from mid-August to late October.

Grass Quality

Two measures of grass quality are presented: Dry Matter Digestibility (DMD), and Water Soluble Carbohydrate content (WSC). Results are based on testing of plot samples from all 6 cuts per year at one trial site. Forage will provide more energy to the animal if its DMD is high. High DMD forage increases the DM intake of animals where feeding is not restricted. This increase in intake has a big effect on animal performance. Actual DMD levels can vary considerably and are influenced by several factors including growth stage and climate. The relative DMD values for individual varieties are presented in the Tables. Small differences in these values are considered relevant. The Water Soluble Carbohydrate content of grass is a measure of its 'sugar content'. Actual WSC levels vary widely, and are greatly influenced by the intensity and duration of sunlight in the preceding hours and days. The relative WSC values for individual varieties are presented in the Tables. Higher WSC levels are considered beneficial to animal performance. Large differences in the WSC values presented are considered relevant.

DAFF acknowledge the assistance of Teagasc, Grange, in carrying out laboratory analysis of grass samples for quality determinations.

Summary of All Recommended List Varieties 2011

Perennial ryegrass	
AberCraigs (T)	Late
AberStar	Intermediate
AberMagic	Intermediate
Cancan	Late
Delphin (T)	Late
Denver	Late
Donard	Early
Dunluce (T)	Intermediate
Drumbo	Late
Edda (T)	Intermediate
Giant (T)	Intermediate
Glencar (T)	Late
January	Early
Lismore (T)	Intermediate
Magician (T)	Intermediate
Malambo	Late
Malone (T)	Intermediate
Mezquita	Late
Navan (T)	Late
Orion (T)	Late
Portstewart	Late
Premium	Intermediate
Shandon	Intermediate
Solomon	Intermediate
Soriento	Late
Trend (T)	Intermediate
Twymax (T)	Late
Twystar	Late
Tyrella	Late
Tyrone	Late

Italian ryegrass
Davinci
Fabio (T)
Nabucco (T)

Hybrid ryegrass
AberEve (T)
Alliance (T)
Ligunda
Pirol

White clover
AberHerald
Alice
Aran
Avoca
Barblanca
Chieftain
Crusader

In the above tables, varieties are listed in alphabetical order. In all subsequent tables, grass varieties are listed in order of heading date and ploidy, with those heading earliest at the top of the list and those with the latest heading date at the bottom.

White clover varieties are shown in order of decreasing leaf size.

RECOMMENDED EARLY and INTERMEDIATE PERENNIAL RYEGRASS 2011

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Autumn Growth	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Early PRG Control Mean t DM/ha				15.6	1.5	3.2	80.4	18.4				
Donard	Early	D	14-May	101	6.3	100	104	100.0	97	1997	AFBI	NI
January	Early	D	16-May	100	6.0	114	99	99.0	100	2008	Teagasc	IRL
Inter PRG Control Mean t DM/ha				15.3	1.3	3.0	81.1	18.3				
Shandon	Inter	D	23-May	97	6.9	98	95	98.6	96	2005	Teagasc	IRL
Solomon	Inter	D	25-May	101	7.0	122	103	(99.6)	(96)	2011	Teagasc	IRL
Premium	Inter	D	29-May	98	7.2	92	99	99.5	97	1997	Innoseeds	NL
AberStar	Inter	D	01-Jun	99	7.0	91	107	(101.0)	(105)	2008	IBERS	UK
AberMagic	Inter	D	n/a*	101	7.3	92	115	101.8	125	2010	IBERS	UK
Malone (T)	Inter	T	22-May	104	6.0	109	105	100.8	109	2009	AFBI	NI
Giant (T)	Inter	T	22-May	102	7.1	114	103	(100.1)	(106)	2011	Teagasc	IRL
Magician (T)	Inter	T	23-May	102	6.5	113	101	100.6	101	1999	Teagasc	IRL
Lismore (T)	Inter	T	27-May	99	6.4	90	97	100.4	100	2006	Euro Grass	DE
Trend (T)	Inter	T	27-May	104	6.3	100	102	(100.7)	(102)	2007	NPZ	DE
Edda (T)	Inter	T	28-May	101	6.2	98	101	101.1	105	2003	NPZ	DE
Dunluce (T)	Inter	T	01-Jun	102	6.3	97	108	102.7	120	2007	AFBI	NI

Early PRG: variety descriptions Page 11;

Control varieties Page 16.

Intermediate PRG: variety descriptions Page 11 and 12;

Control varieties Page 16.

*n/a = Insufficient data, considered latest of Group.

() indicates provisional data.

RECOMMENDED LATE PERENNIAL RYEGRASS 2011

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Autumn Growth	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Late PRG Control Mean t DM/ha				14.8	1.1	3.1	82.2	18.3				
Denver	Late	D	05-Jun	98	7.3	97	97	99.4	91	2003	Advanta	NL
Soriento	Late	D	05-Jun	98	7.4	92	96	99.5	95	2005	Euro Grass	DE
Tyrella	Late	D	05-Jun	98	6.8	130	99	100.2	107	2008	AFBI	NI
Tyrone	Late	D	05-Jun	96	6.9	84	102	99.5	103	1989	AFBI	NI
Portstewart	Late	D	07-Jun	98	6.9	92	101	100.1	102	1994	AFBI	NI
Mezquita	Late	D	07-Jun	98	7.7	105	98	(99.2)	(94)	2008	Euro Grass	DE
Drumbo	Late	D	09-Jun	99	7.0	108	104	100.8	114	2011	AFBI	NI
Malambo	Late	D	11-Jun	99	7.0	96	104	98.6	93	2010	Euro Grass	DE
Twystar	Late	D	11-Jun	97	7.2	98	101	99.0	99	1998	CPB Twyford	UK
Cancan	Late	D	12-Jun	97	7.3	83	105	99.7	108	2000	Limagrain	F
Orion (T)	Late	T	02-Jun	100	6.6	85	98	101.3	112	2002	NPZ	DE
Delphin (T)	Late	T	02-Jun	104	6.4	107	103	100.8	104	2002	NPZ	DE
Glencar (T)	Late	T	03-Jun	102	6.4	105	100	99.7	98	2005	Teagasc	IRL
AberCraigs (T)	Late	T	05-Jun	101	6.4	101	101	100.8	109	1999	IBERS	UK
Navan (T)	Late	T	07-Jun	102	6.6	89	111	101.0	112	1999	AFBI	NI
Twymax (T)	Late	T	08-Jun	101	6.7	87	101	(101.2)	(115)	2007	CPB Twyford	UK

Late PRG: variety descriptions Pages 12 to 14;

Control varieties Page 16.

* n/a = insufficient data

() indicates provisional data.

RECOMMENDED ITALIAN and HYBRID RYEGRASS 2011

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Silage Yield	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Italian Control Mean t DM/ha				17.3	1.4	9.4	78.2	19.2				
Fabio (T)	Italian	T	23-May	100	5.0	101	100	101.1	106	1998	Euro Grass	DE
Nabucco (T)	Italian	T	24-May	102	5.2	104	101	100.5	106	2007	Euro Grass	DE
Davinci	Italian	D	26-May	103	5.6	105	100	99.0	90	2011	ILVO	BE
Hybrid Control Mean t DM/ha				16.7	1.3	9.2	79.2	18.9				
Ligunda	Hybrid	D	23-May	105	5.4	122	103	97.7	104	2011	Euro Grass	DE
AberEve (T)	Hybrid	T	25-May	100	5.7	95	102	(101.3)	(114)	2008	IBERS	UK
Alliance (T)	Hybrid	T	25-May	103	5.1	110	103	100.9	111	2011	Limagrain	NL
Pirol	Hybrid	D	27-May	103	5.6	100	103	(98.3)	(96)	2009	Euro Grass	DE

Italian and Hybrid: variety descriptions Page 14; Control varieties Page 16.
 () indicates provisional data.

GRASS VARIETY DESCRIPTIONS: Introduction

The variety descriptions provided in this booklet are based on the information in the Tables. They are generally confined to pointing out cases where a variety's performance relative to other varieties in the same group is considerably superior or inferior regarding a particular characteristic. Superiority is indicated by terms such as 'very good' and 'excellent', while inferiority is indicated by terms such as 'moderate' and 'poor'. The descriptions are not intended to give an overview of the value of a variety as regards all of its characteristics. In reading the descriptions, it should be borne in mind that all the varieties on the recommended list are those that performed best in trials conducted by the Department of Agriculture, Fisheries and Food in Ireland and for which commercial quantities of seed has been produced by the seed industry. The trials included large numbers of varieties put forward by breeders from many countries.

EARLY PERENNIAL RYEGRASS:

Donard: A generally good variety with well balanced production over the growing period.

January: A generally good variety with excellent spring growth.

INTERMEDIATE PERENNIAL RYEGRASS: DIPLOIDS

Shandon: Its spring growth is the second best for the diploids. Autumn yield and dry matter digestibility are moderate.

Solomon: A new variety on the Recommended List. Its total yield is very good. Spring growth is excellent and is much better than that of the other diploids in the group.

Premium: Its ground cover score is very good.

AberStar: Its heading date is one of the latest in the group.

AberMagic: Annual yield and autumn growth are very good. Ground cover and dry matter digestibility are very good. Its heading date is the latest in the group.

INTERMEDIATE PERENNIAL RYEGRASS: TETRAPLOIDS

- Malone:** Its total yield is one of the best two in the group. Spring yield is very good. Ground cover is moderate. Dry matter digestibility is very good.
- Giant:** A new variety on the Recommended List. Spring growth is very good. Ground cover is very good and is considerably better than that of the other tetraploids.
- Magician:** Spring growth is very good. Ground cover is the second best in the tetraploid group.
- Lismore:** Total yield is moderate. Spring growth is poor and autumn growth is moderate.
- Trend:** Its total yield is one of the best two in the group.
- Edda:** Dry matter digestibility is second best in the group.
- Dunluce:** Its dry matter digestibility is exceptionally good. Its autumn growth is the best of the tetraploids. It is the latest heading tetraploid variety in the group.

LATE PERENNIAL RYEGRASS: DIPLOIDS

- Denver:** Ground cover is very good. Autumn growth is moderate.
- Soriento:** Ground cover is very good. Autumn growth is moderate.
- Tyrella:** Its spring growth is excellent and is very much better than that of other varieties in the group.
- Tyrone:** Total yield is below average. Spring growth is poor.

- Portstewart:** Well balanced production over the growing period.
- Mezquita:** Its ground cover is excellent, being considerably better than that of other varieties. Spring growth is very good.
- Drumbo:** A new variety on the Recommended List. Spring growth is very good. Dry matter digestibility is very good.
- Malambo:** Well balanced production over the growing period. Dry matter digestibility is moderate. It is one of the latest heading varieties.
- Twystar:** Dry matter digestibility is moderate. It is one of the latest heading varieties.
- Cancan:** Ground cover is very good. Spring growth is poor. It is the latest heading variety.

LATE PERENNIAL RYEGRASS: TETRAPLOIDS

- Orion:** Spring growth is poor. Dry matter digestibility is very good. It is one of the earliest heading varieties in the group.
- Delphin:** Total yield is the highest in the group. Spring growth is very good. Dry matter digestibility is very good. It is one of the earliest heading varieties in the group.
- Glencar:** Spring growth is very good. It is one of the earliest heading varieties in the group.
- AberCraigs:** Dry matter digestibility is very good. Spring Growth is good.

Navan: Spring growth is moderate. Autumn growth is very good and is much better than that of any other variety in the group. Dry matter digestibility is very good.

Twymax: Ground cover is highest of the tetraploids. Spring growth is moderate.

ITALIAN RYEGRASS:

Fabio (T): A tetraploid variety. Dry matter digestibility is very good.

Nabucco (T): A tetraploid variety with well balanced production over the growing period.

Davinci: A new variety on the Recommended List. Its annual yield and ground cover are the best of the Italian Group. Dry matter digestibility is moderate.

HYBRID RYEGRASS:

Ligunda: A new variety on the Recommended List. Its total yield and spring growth are the highest in the group. Dry matter digestibility is low.

AberEve (T): Ground cover is the best in the group. Spring growth is poor.

Alliance (T): A new variety on the Recommended List. Ground cover is the poorest in the group. Spring growth is very good. Dry matter digestibility is very good.

Pirol: Ground cover is second best in the group. Yield is well balanced over the growing period.

RECOMMENDED WHITE CLOVER VARIETIES 2011

Variety Name	Total Yield	Leaf Size	Av Clover %	Year 1st Listed	Breeder	Origin
Control Mean t DM/ha	9.1					
Aran	98	VL	44	1983	Teagasc	IRL
Barblanca	103	L	50	2009	Barenbrug	NL
Alice	103	L	48	1995	Barenbrug	NL
Chieftain	102	M	41	2005	Teagasc	IRL
Avoca	102	M	46	1995	Teagasc	IRL
AberHerald	97	M	43	2003	IBERS	UK
Crusader	94	S	43	2009	Barenbrug	NL

Varieties are listed in order of decreasing leaf size.
Control varieties are shown on Appendix 1, page 16.

WHITE CLOVER VARIETY DESCRIPTIONS

- Aran:** The largest leaved variety on the list. Considered suitable for silage production and unsuitable for hard grazing.
- Barblanca:** A large leaved variety. It is one of the two highest yielding varieties. Considered suitable for silage production and unsuitable for hard grazing.
- Alice:** A large leaved variety. It is one of the two highest yielding varieties. Considered suitable for silage production and unsuitable for hard grazing.
- Chieftain:** A medium leaved variety with good yield. It is suitable for grazing.
- Avoca:** A medium leaved variety with good yield. It is suitable for grazing.
- AberHerald:** A medium leaved variety. It is suitable for grazing.
- Crusader:** A small leaved variety. It is very suitable for close grazing.

Appendix 1: Control varieties

	EARLY PRG* Control Varieties
Trial sown 2004	Anaconda (T) and Donard.
Trial sown 2006	Anaconda (T) and January.

	INTER. PRG* Control Varieties
Trial sown 2006	Premium, Shandon, Spelga Dunluce (T), Lismore (T), Magician (T)
Trial sown 2007	Premium, Shandon, Spelga Magician (T), Malone (T), Trend (T)

	LATE PRG* Control Varieties
Trial sown 2006	Denver, Cancan, Soriento AberCraigs (T), Delphin (T), Glencar (T)
Trial sown 2007	Denver, Mezquita, Tyrella AberCraigs (T), Delphin (T), Glencar (T)

	ITALIAN Control Varieties
Trial sown 2005	Fabio (T), Ligrande
Trial sown 2007	AberEpic, Fabio (T), Nabucco (T)

	HYBRID Control Varieties
Trial sown 2005	Foyle (T), Ligunda, Pirol
Trial sown 2007	Alliance (T), Ligunda, Motivel (T)

	WHITE CLOVER Control Varieties
Trial sown 2004	AberHerald, Alice, Aran, Avoca
Trial sown 2006	AberHerald, Alice, Aran, Avoca

* 'PRG' is used to indicate 'Perennial Ryegrass'.

DEPARTMENT OF AGRICULTURE, FISHERIES AND FOOD

RECOMMENDED LISTS

Cereal Varieties

Grass and Clover

Forage Maize

Winter Oilseed Rape

CROP SCHEMES AND SERVICES

Seed Certification

Seed Testing

The use of certified seed ensures a high level of varietal purity and germination.